

Flight-Testing Newton's Laws			
2002 Science			
Core Curriculum			
Utah Science			
Grades 9-12 (Physics)			
Activity/Lesson	State	Standards	
Session-10 (1-5)	UT	SCI.9-12.1.2.d	Describe the acceleration of an object moving in a circular path at constant speed (i.e., constant speed, but changing direction).
Session-10 (1-5)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.
Session-10 (1-5)	UT	SCI.9-12.2.2.d	Predict the combined effect of multiple forces (e.g., friction, gravity, and normal forces) on an object's motion.
Session-1 (1-17)	UT	SCI.9-12.1.2.d	Describe the acceleration of an object moving in a circular path at constant speed (i.e., constant speed, but changing direction).
Session-1 (1-17)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.
Session-1 (1-17)	UT	SCI.9-12.2.2.d	Predict the combined effect of multiple forces (e.g., friction, gravity, and normal forces) on an object's motion.
Session-1 (1-17)	UT	SCI.9-12.3.1.d	Explain how evidence and inference are used to describe fundamental forces in nature, such as the gravitational force.
Session-1 (1-17)	UT	SCI.9-12.3.1.e	Research the importance of gravitational forces in the space program.
Session-1 (1-17)	UT	SCI.9-12.4.1.b	Calculate the kinetic energy of an object given the velocity and mass of the object.
Session-2 (1-10)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.
Session-2 (1-10)	UT	SCI.9-12.2.2.d	Predict the combined effect of multiple forces (e.g., friction, gravity, and normal forces) on an object's motion.
Session-2 (1-10)	UT	SCI.9-12.3.1.a	Investigate how mass affects the gravitational force (e.g., spring scale, balance, or other method of finding a relationship between mass and the gravitational force).
Session-2 (1-10)	UT	SCI.9-12.3.1.e	Research the importance of gravitational forces in the space program.
Session-3 (1-6)	UT	SCI.9-12.1.2.d	Describe the acceleration of an object moving in a circular path at constant speed (i.e., constant speed, but changing direction).
Session-3 (1-6)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.

Session-3 (1-6)	UT	SCI.9-12.4.1.b	Calculate the kinetic energy of an object given the velocity and mass of the object.
Session-4 (1-11)	UT	SCI.9-12.2.2.d	Predict the combined effect of multiple forces (e.g., friction, gravity, and normal forces) on an object's motion.
Session-5 (1-6)	UT	SCI.9-12.2.2.a	Determine the relationship between the net force on an object and the object's acceleration.
Session-5 (1-6)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.
Session-6 (1-8)	UT	SCI.9-12.1.2.d	Describe the acceleration of an object moving in a circular path at constant speed (i.e., constant speed, but changing direction).
Session-6 (1-8)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.
Session-6 (1-8)	UT	SCI.9-12.2.2.d	Predict the combined effect of multiple forces (e.g., friction, gravity, and normal forces) on an object's motion.
Session-7 (1-5)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.
Session-7 (1-5)	UT	SCI.9-12.2.2.d	Predict the combined effect of multiple forces (e.g., friction, gravity, and normal forces) on an object's motion.
Session-8 (1-9)	UT	SCI.9-12.1.2.e	Analyze the velocity and acceleration of an object over time.
Session-8 (1-9)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.
Session-9 (1-7)	UT	SCI.9-12.2.2.a	Determine the relationship between the net force on an object and the object's acceleration.
Session-9 (1-7)	UT	SCI.9-12.2.2.b	Relate the effect of an object's mass to its acceleration when an unbalanced force is applied.
Session-9 (1-7)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.